

- 207 The Classification of Chest Radiographs for Coal Workers' Pneumoconiosis. A Study of the Performance of Two Readers Over a Period of Six Years. J. R. Ashford.
Brit. J. Ind. Med. 17, 293-303 (Oct. 1960).

This paper is concerned with the performance over the past 6 years of the 2 doctors responsible for the classification of chest radiographs obtained by the National Coal Board's Pneumoconiosis Field Research. A brief description is given of the categories of pneumoconiosis used in the Research and of the procedures adopted to decide the final or "definitive" classification. The readings obtained are then considered in detail and 3 main points emerge from the analysis. First, it is shown that there have been marked systematic fluctuations in the reading levels of these 2 very experienced observers. In spite of these individual variations it is found that the standards applied on the definitive readings, which are based on the joint discussion by the 2 doctors of films on which their individual readings are inconsistent, remain remarkably constant over a period of several years. The third main feature of the analysis is the considerable differences in the magnitude of the reading errors between the various categories of pneumoconiosis. It is concluded that, although the existing procedures provide a satisfactory way of estimating the prevalence of pneumoconiosis, it would be desirable to increase the number of film readers. The beneficial effect of the system whereby a running check is kept on film reading standards is also established. -- Author's abst.

- 268 Emphysema, Soot, and Pulmonary Circulation. Macroscopic Studies of Aging Lungs.
C. P. Oderr. J. Am. Med. Assn. 172, 1991-1998 (Apr. 30, 1960).

Two hundred lungs, obtained from persons dying of diseases other than pulmonary tuberculosis, were fixed in the inflated state to permit study of the relation between emphysema and deposits of soot. The evidence showed that chronic emphysema usually develops first in small areas of trapped parenchymal soot deposits; it is manifested by abnormal fenestrations in the interalveolar septums and by increased diameter of the alveolar ducts. The emphysema accompanying deposits of soot can be explained as resulting from tissue defects and disarranged mechanical forces. Precapillary vessels are found protruding into the air spaces of the alveolar duct level, providing a possible mechanism for correlation between aerodynamics and hydrodynamics in the lung parenchyma. The morphological basis for an extensive semishunt mechanism is demonstrated in the periphery of each lobe. -- APCA Absts.

- 269 Radiological Diagnosis in Asbestosis. R. Williams and P. Hugh-Jones.
Thorax (London) 15, 103 (June 1960).

The authors studied the lung function in 40 patients at the Royal Free Hospital, London, who had been exposed to asbestos dust in their work for varying periods of time. Of these, asbestosis had been certified by the pneumoconiosis medical boards in 21; 10 patients with a prolonged exposure did not have definite roentgenographic signs of asbestosis; in the remaining 9 patients the diagnosis of asbestosis was doubtful. The changes of pulmonary function observed in the patients with asbestosis were those common to patients with other interstitial fibroses, and consisted of a lowered diffusing capacity together with a reduced inspiratory capacity, hyperventilation (often accompanied by arterial desaturation) on exertion, with no evidence of air-flow obstruction except in patients in whom asbestosis was complicated by asthma or emphysema. Many patients also showed inequality of ventilation and ventilation-perfusion ratio. These functional changes were related to an independent grading of physical signs and roentgenographic appearances. Changes in lung function, specific for an interstitial fibrosis, often precede definite changes in the chest roentgenogram, so that finding them in patients with a history of exposure to asbestos is suggestive evidence of asbestosis whatever the roentgenographic appearances may be. -- J. Am. Med. Assn. Absts.